



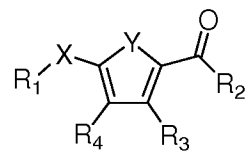
29. (Previously presented) The method of claim 24 wherein the subject is a subject having or at risk of having a cancer expressing a cancer antigen.

30-44. (Canceled)

45. (Previously presented) The method of claim 24 wherein the subject is a subject having or at risk of having an infectious disease.

46-67. (Canceled)

68. (Currently Amended) A method of enhancing MHC Class II catalyzed peptide exchange comprising contacting a cell bearing a MHC Class II molecule with a compound of ~~claim 1~~ in the presence of a peptide that binds MHC class II, wherein the compound is of the formula:



wherein,

R<sub>1</sub> is alkyl, aryl, or heterocyclyl;

R<sub>2</sub> is H, alkyl, aryl, heterocyclyl, OR<sub>3</sub>, or N(R<sub>3</sub>)<sub>2</sub>;

R<sub>3</sub> is H, alkyl, aryl, or heterocyclyl;

R<sub>4</sub> is H, CN, halogen, CF<sub>3</sub>, CO<sub>2</sub>R<sub>3</sub>, or C(O)N(R<sub>3</sub>)<sub>2</sub>;

X is S, SO<sub>2</sub>, O, or NR<sub>3</sub>; and

Y is S, O, or NR<sub>3</sub>.

69-113. (Canceled)

114. (New) The method of claim 24, wherein

R<sub>1</sub> is alkyl, aryl, or heterocyclyl;

R<sub>2</sub> is H, aryl, heterocyclyl, OR<sub>3</sub>, or N(R<sub>3</sub>)<sub>2</sub>;

R<sub>3</sub> is aryl or heterocyclyl;

R<sub>4</sub> is H, CN, halogen, CF<sub>3</sub>, or C(O)N(R<sub>3</sub>)<sub>2</sub>;

X is S, SO<sub>2</sub>, or O; and

Y is S or O.

115. (New) The method of claim 24, wherein

R<sub>1</sub> is alkyl, aryl, or heterocyclyl;

R<sub>2</sub> is H, OR<sub>3</sub>, or N(R<sub>3</sub>)<sub>2</sub>;

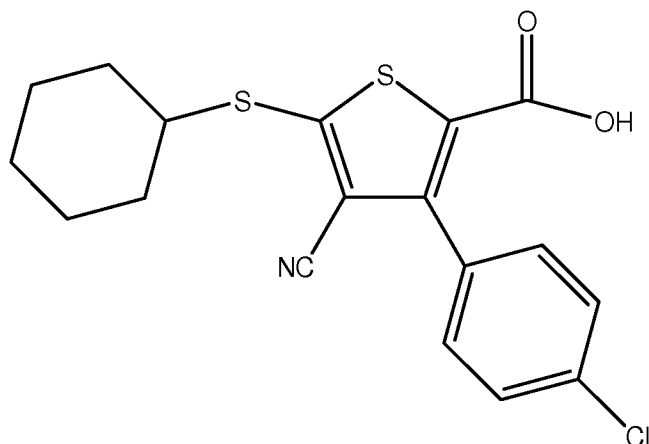
R<sub>3</sub> is aryl or heterocyclyl;

R<sub>4</sub> is H, CN, F, Cl, Br, or CF<sub>3</sub>;

X is S; and

Y is S.

116. (New) The method of claim 24, wherein the compound is represented by the formula:



117. (New) The method of claim 24, further comprising administering an antigen to the subject.

118. (New) The method of claim 117, wherein the antigen is a cancer antigen.

119. (New) The method of claim 117, wherein the antigen is a viral antigen, a bacterial antigen, a fungal antigen or a parasitic antigen.

120. (New) The method of claim 68, wherein

R<sub>1</sub> is alkyl, aryl, or heterocyclyl;

R<sub>2</sub> is H, aryl, heterocyclyl, OR<sub>3</sub>, or N(R<sub>3</sub>)<sub>2</sub>;

R<sub>3</sub> is aryl or heterocyclyl;

R<sub>4</sub> is H, CN, halogen, CF<sub>3</sub>, or C(O)N(R<sub>3</sub>)<sub>2</sub>;

X is S, SO<sub>2</sub>, or O; and

Y is S or O.

121. (New) The method of claim 68, wherein

R<sub>1</sub> is alkyl, aryl, or heterocyclyl;

R<sub>2</sub> is H, OR<sub>3</sub>, or N(R<sub>3</sub>)<sub>2</sub>;

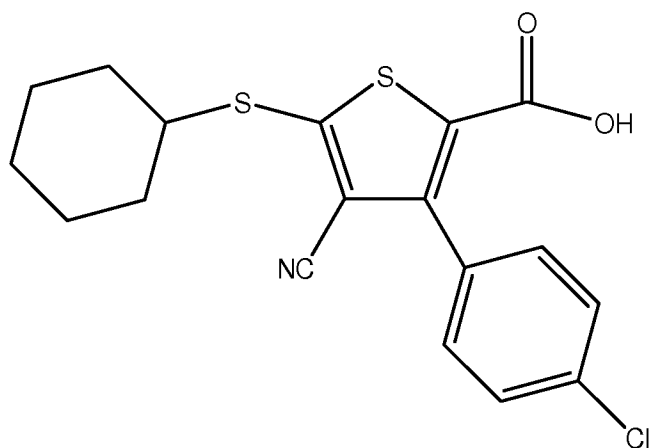
R<sub>3</sub> is aryl or heterocyclyl;

R<sub>4</sub> is H, CN, F, Cl, Br, or CF<sub>3</sub>;

X is S; and

Y is S.

122. (New) The method of claim 68, wherein the compound is represented by the formula:



123. (New) The method of claim 68, further comprising administering an antigen to the subject.

124. (New) The method of claim 123, wherein the antigen is a cancer antigen.

125. (New) The method of claim 123, wherein the antigen is a viral antigen, a bacterial antigen, a fungal antigen or a parasitic antigen.